

CLAIMS

1. A method of inhibiting neuronal cell death, comprising:
administering to a subject in need thereof an effective amount of an isolated molecule comprising an antibody variable region which specifically binds to a neuronal marker (NM) protein selected from the group consisting of: microglobulin; beta-2-microglobulin + prostaglandin receptor F2a; glutathione S-transferase Yb subunit; GST subunit 4 mu (GSTM2); vascular cell adhesion protein 1 precursor (V-CAM 1); gamma-aminobutyric acid (GABA) transporter 2; VGF8A protein precursor; Transforming growth factor beta (TGF-beta) masking protein large subunit; erythropoietin precursor (EPO); protein arginine N-methyltransferase 1; signal transducer & activator of transcription 3 (STAT3); ceruloplasmin precursor (CP); ferroxidase; clusterin (CLU); testosterone-repressed prostate message 2 (TRPM2); apolipoprotein J; sulfated glycoprotein 2 (SGP2); dimeric acid glycoprotein (DAG); heparin-binding growth factor 2 precursor (HBGF2); basic fibroblast growth factor; (BFGF); fibroblast growth factor 2 (FGF2); prostatropin; and plasminogen activator inhibitor 2A, whereby neuronal cell death is inhibited.

2. The method of claim 1 wherein the subject has optic nerve degeneration.
3. The method of claim 1 wherein the subject has Alzheimer's disease.
4. The method of claim 1 wherein the subject has diabetic retinopathy.
5. The method of claim 1 wherein the subject has Huntington's disease.
6. The method of claim 1 wherein the subject has spinal cord injury.
7. The method of claim 1 wherein the subject has Parkinson's disease.
8. The method of claim 1 wherein the subject has glaucoma.
9. The method of claim 1 wherein the subject has age-related macular degeneration.

10. A method of preventing neuronal cell death in a mammal, comprising:
administering to the mammal a nucleic acid molecule comprising a coding sequence for a neuronal marker (NM) protein selected from the group consisting of: NM androgen binding protein; plasma kallikrein (rPK); Lim-2; embryonic motor neuron topographic organizer, HOMEODOMAIN PROTEIN LIM-2 (LIM/HOMEODOMAIN PROTEIN LHX5).; DCC; netrin receptor; immunoglobulin gene superfamily member; former tumor suppressor protein candidate; N-myc proto-oncogene protein; M-phase inducer phosphatase 2 (MPI2); cell division control protein 25 B (CDC25B); von ebner's gland protein 2; VEG protein 2; VEGP2 + von ebner's gland protein 1; VEG protein 1; VEGP1; VEGP; synaptobrevin 1 (SYB1); vesicle-associated membrane protein 1 (VAMP1); 3-methylcholanthrene-inducible cytochrome P450 (P450MC); cytochrome P450 IA1 (CYPIA1); cytochrome P450 VII (CYP7); cholesterol 7-alpha-monooxygenase; cholesterol 7-alpha-hydroxylase; cyclic nucleotide-activated channel, olfactory; cytochrome P450 2E1 (CYP2E1); P450-J; P450RLM6; high affinity L-proline transporter; neuronal acetylcholine receptor protein alpha-3 chain precursor; sodium channel I; voltage-dependent L-type calcium channel alpha 1C subunit (CACNA1); cardiac muscle L-type calcium channel alpha 1 polypeptide isoform 1 (CCHL1A1); rat brain class C (RBC); CACH2; CACN2; ATPase, hydrogen-potassium, alpha 2a subunit; sodium channel, amiloride sensitive, alpha subunit; SCNEA; alpha NACH; SCNN1A; RENAC; ; cardiac specific sodium channel alpha subunit; potassium channel protein CDRK; neuronal acetylcholine receptor protein alpha 5 subunit precursor (CHRNA5; ACRA5); sodium channel SHRSPHD, gamma subunit, epithelial; sodium channel protein 6 (SCP6); renal organic anion transporter (ROAT1) + multispecific organic anion transporter (OAT1); neuronal acetylcholine receptor protein alpha 6 subunit precursor (CHRNA6; ACRA6); purinergic receptor P2X3, ligand-gated ion channel; calcium channel, alpha 1 beta; sodium channel, beta 1 subunit; neuronal acetylcholine receptor protein alpha 7 subunit precursor (CHRNA7; ACRA7); neuronal nicotinic acetylcholine receptor alpha 2 subunit; proton gated cation channel drasic; sensory neuron specific; channel-inducing factor precursor (CHIF); corticosteroid-induced protein; MYELIN BASIC PROTEIN S (MBP S); organic cation transporter 2 (OCT2); ASIC1 proton gated cation channel; glycine receptor alpha 3 subunit precursor (GLRA3); voltage-gated K⁺ channel protein; RK5; potassium channel

protein; voltage-activated calcium channel alpha-1 subunit (RBE-II); nickel-sensitive T-type calcium channel alpha-1 subunit; inward rectifier potassium channel subfamily J member 2 (KCNJ2); RBL-IRK1; eek proto-oncogene, protein tyrosine kinase, eph/elk-related; prostaglandin D2 receptor; activin receptor type I precursor (ACVR1; ACTR1); serine/threonine-protein kinase receptor R1 (SKR1); TGF-B superfamily receptor type I (TSR-I); ACVRLK2; calcitonin receptor precursor (CT-R); C1A/C1B; prostaglandin E2 receptor EP2 subtype (PGE receptor EP2 subtype; PTGER2); prostanoid EP2 receptor; NEUREXIN I-BETA PRECURSOR, Non-processed neurexin I-beta Synaptic cell surface proteins + NEUREXIN I-ALPHA PRECURSOR, Non-processed neurexin I-alpha Synaptic cell surface proteins; gastrin-releasing peptide precursor (GRP); neuromedin C; serotonin receptor; 5-hydroxytryptamine 6 receptor (5-HT-6); ST-B17; possesses high affinity for tricyclic psychotropic drugs; platelet activating factor receptor; alpha 2B adrenergic receptor (ADRA2B); alpha 2B adrenoceptor; VASOACTIVE INTESTINAL POLYPEPTIDE RECEPTOR 2 PRECURSOR (VIP-R-2) (PITUITARY ADENYLATE CYCLASE ACTIVATING POLYPEPTIDE TYPE III RECEPTOR) (PACAP TYPE III RECEPTOR) (PACAP-R-3).; transforming growth factor beta 3 (TGF-beta3); antiproliferative growth factor; vasopressin V1b receptor; prostaglandin E2 receptor EP4 subtype; alpha 2C adrenergic receptor (ADRA2C); alpha 2C adrenoceptor; vasopressin/arginine receptor, V1a; prostaglandin F2 alpha receptor; growth hormone secretagogue receptor 1 (GHSR); cholecystokinin receptor; NMDAR2A N-METHYL-D-ASPARTATE RECEPTOR SUBUNIT; P2U PURINOCEPTOR 1 (ATP RECEPTOR) (P2U1) (PURINERGIC RECEPTOR).; estrogen receptor beta (ER-beta); ESR2; NR3A2; kappa-type opioid receptor (KOR-1); lutropin-choriogonadotropic hormone receptor; beta 1 adrenergic receptor (ADRB1R); 5-hydroxytryptamine (serotonin) receptor 1B; 5-HT1B; adrenergic receptor, beta 2; muscarinic acetylcholine receptor M3 (MACHR); B1 bradikinin receptor; mu opioid receptor (MUOR1); mu-type opioid receptor (MOR-1); opioid receptor B; serotonin 5HT2 receptor; somatostatin receptor 2; melatonin receptor; somatostatin receptor; galanin receptor 1; neuromedin B receptor; transmembrane receptor UNC5H1.; pancreatic polypeptide receptor PP1; interleukin-2 (IL-2); somatostatin; luteinizing hormone, alpha; mast cell protease 1 precursor (RMCP-1); secretory protein probasin (M-40); E-selectin precursor; endothelial leukocyte adhesion molecule 1 (ELAM-1); leukocyte-endothelial cell adhesion molecule 2 (LECAM2);

CD62E; Protein kinase C-binding protein beta15; RING-domain containing; kidney band 3 anion exchange protein; SLC4A1; AE1; L-selectin precursor; lymph node homing receptor; leukocyte adhesion molecule-1 (LAM-1); LY-22; lymphocyte surface MEL-14 antigen; leukocyte-endothelial cell adhesion molecule 1 (LECAM1); CD62L; Wilms' tumor protein (WT1); tumor suppressor; CD28, T-cell surface antigen; c-fgr proto-oncogene ; CD3, gamma chain; cathepsin E; S-myc proto-oncogene protein; myc-related ; G protein-activated inward rectifier potassium channel 4 (GIRK4); inward rectifier potassium channel subfamily J member 5 (KCNJ5); heart KATP channel; KATP-1; cardiac inward rectifier (CIR); KIR3.4; fructose (glucose) transporter; sodium channel protein 6 (SCP6); sodium channel, beta 1 subunit; sodium-hydrogen exchange protein-isoform 2 (NHE-2); PMCA; ATP2B2; calcium-transporting ATPase plasma membrane (brain isoform 2; EC 3.6.1.38); calcium pump; ATPase, sodium/potassium, gamma subunit; G protein-activated inward rectifier potassium channel 1 (GIRK1); inward rectifier potassium channel subfamily J member 3 (KCNJ3); KGA; KGB1; KIR3.1; proton gated cation channel drasic; sensory neuron specific; sodium channel 2, brain; ATPase, copper-transporting, Menkes protein; channel-inducing factor precursor (CHIF); corticosteroid-induced protein; synaptotagmin II; carbonic anhydrase 4; calcitonin receptor precursor (CT-R); C1A/C1B; vasopressin V2 receptor; 5-hydroxytryptamine (serotonin) receptor 1B; 5-HT1B; gamma-aminobutyric acid receptor alpha 4 subunit precursor (GABA(A) receptor; GABRA4); vitamin D3 receptor (VDR); 1,25-dihydroxyvitamin D-3 receptor; NR1I1; muscarinic acetylcholine receptor M5 (CHRM5); somatostatin receptor; galanin receptor 1; granulocyte-macrophage colony-stimulating factor (GM-CSF); colony- stimulating factor (CSF); guanylyl cyclase (membrane form); parathyroid hormone receptor PTH2; galanin receptor 2; 5-hydroxytryptamine (serotonin) receptor 2B; guanine nucleotide-binding protein G(I)/G(S)/G(O) gamma-7 subunit (GNG7; GNGT7); adenylyl cyclase 4; protein kinase C-binding protein nel homolog 1; phospholipase C beta 3 (PLC-beta 3); tissue-type plasminogen activator (t-PA); NVP; neural visinin-like Ca²⁺-binding protein , VISININ-LIKE PROTEIN 1 (VILIP-1) (NEURAL VISININ-LIKE PROTEIN 1) (NVL-1) (NVP-1) (21 KD CABP).; T-cell receptor CD3 zeta subunit; P-selectin precursor; granule membrane protein 140 (GMP-140); PADGEM; CD62P; leukocyte-endothelial cell adhesion molecule 3 (LECAM3); T-cell receptor gamma subunit; kidney band 3 anion exchange protein; SLC4A1; AE1; L-selectin precursor; lymph node homing receptor; leukocyte adhesion molecule-

1 (LAM-1); LY-22; lymphocyte surface MEL-14 antigen; leukocyte-endothelial cell adhesion molecule 1 (LECAM1); CD62L; myelin P0 protein precursor; MPZ; MAL; T-lymphocyte maturation-associated protein; myelin protein MVP17; ErbB3 EGF receptor-related proto-oncogene; HER3; CD 30L receptor; lymphocyte activation antigen CD30; Ki-1 antigen; CD30 precursor; zinc transporter (ZnT-1); CCHB3; calcium channel (voltage-gated; DIHYDROPYRIDINE-SENSITIVE L-TYPE, CALCIUM CHANNEL BETA-3 SUBUNIT.; water channel aquaporin 3 (AQP3); 3-methylcholanthrene-inducible cytochrome P450 (P450MC); cytochrome P450 IA1 (CYP1A1); sodium/potassium-transporting ATPase beta 1 subunit (ATP1B1); glucose transporter 3; ATP-sensitive inward rectifier potassium subfamily J member 8 (KCNJ8); UKATP-1; ATP-sensitive inwardly rectifying K⁺ channel KIR6.1; RIM; Rab3 effector in synaptic-vesicle fusion; neuronal acetylcholine receptor protein alpha-3 chain precursor; purinergic receptor P2X5, ligand-gated ion channel; sodium channel I; renal organic anion transporter (ROAT1) + multispecific organic anion transporter (OAT1); neuronal acetylcholine receptor protein alpha 6 subunit precursor (CHRNA6; ACRA6); sodium channel, beta 1 subunit; sodium-hydrogen exchange protein-isoform 2 (NHE-2); PMCA; ATP2B2; calcium-transporting ATPase plasma membrane (brain isoform 2; EC 3.6.1.38); calcium pump; fibrinogen beta subunit (FGB); sulfonylurea receptor (SUR); glycine receptor alpha 3 subunit precursor (GLRA3); multidrug resistance protein 2 (MDR2); P-glycoprotein (PGY2); potassium channel, voltage gated, KV3.4; RAW3; KCNC4; sodium/chloride cotransporter, thiazide sensitive; synaptosomal associated protein 25; SNAP-25; SNAP; SNAP25; SUP; calcitonin receptor precursor (CT-R); C1A/C1B; gamma-aminobutyric acid (GABA-A) receptor, beta 1 subunit; NEUREXIN I-BETA PRECURSOR, Non-processed neurexin I-beta Synaptic cell surface proteins + NEUREXIN I-ALPHA PRECURSOR, Non-processed neurexin I-alpha Synaptic cell surface proteins; alpha 2B adrenergic receptor (ADRA2B); alpha 2B adrenoceptor; neuropeptide Y receptor type 1; prostaglandin E2 receptor EP4 subtype; alpha 2C adrenergic receptor (ADRA2C); alpha 2C adrenoceptor; c-ErbA oncogene; thyroid hormone receptor alpha-1 (THRA1); gamma-aminobutyric acid receptor alpha 2 subunit precursor (GABA(A) receptor; GABRA2); P2Y PURINOCEPTOR 6 (P2Y6); glutamate receptor 1 precursor (GluR-1); GluR-A; GluR-K1; gamma-aminobutyric acid receptor alpha 3 subunit precursor (GABA(A) receptor; GABRA3); NMDAR2A N-METHYL-D-ASPARTATE RECEPTOR SUBUNIT; P2U

PURINOCEPTOR 1 (ATP RECEPTOR) (P2U1) (PURINERGIC RECEPTOR).; 5-hydroxytryptamine (serotonin) receptor 1B; 5-HT1B; glycine receptor, alpha 2A subunit, inhibitory; parathyroid hormone receptor PTH2; 5-hydroxytryptamine 5A receptor (5HT5A; HTR5A); serotonin receptor; REC17; acetylcholine receptor alpha; brain natriuretic peptide (BNP); 5-kDa cardiac natriuretic peptide; ISO-ANP; luteinizing hormone, alpha; cocaine/amphetamine-induced rat transcript, CART; protein kinase C-binding protein nel homolog 1; 14-3-3 protein eta; PKC inhibitor protein-1; KCIP-1; plectin; NVP; neural visinin-like Ca²⁺-binding protein, VISININ-LIKE PROTEIN 1 (VILIP-1) (NEURAL VISININ-LIKE PROTEIN 1) (NVL-1) (NVP-1) (21 KD CABP).; syndecan 3; ras-GTPase-activating protein (GAP); ras p21 protein activator; p120GAP; interleukin-6 receptor beta chain; membrane glycoprotein gp130; prostatic secretory protein probasin (M-40); A-raf proto-oncogene; prothymosin-alpha (PTMA); cadherin 6 precursor; kidney-cadherin (K-cadherin); neurofibromin; neurofibromatosis protein type I (NF1); GTPase stimulatory protein; c-H-ras proto-oncogene; transforming G-protein p21; HSP84; HSP90-beta; heat shock 90kD protein; Neural adhesion molecule F3, RAT NEURAL ADHESION MOLECULE F3, COMPLETE CDS.; BIG-1 PROTEIN PRECURSOR; neural cell adhesion protein; neurite outgrowth-promotor; potassium channel protein; KSHIIIA3; ATP-sensitive inward rectifier potassium channel subfamily J member 1 (KCNJ1); KAB-1; KIR1.1; ROMK1; Band 3 (B3RP3), 3 Cl-HCO₃-anion exchanger; voltage-gated potassium channel protein KV1.1; RBK1; RCK1; KCNA1; potassium channel, inward rectifier 9; taurine transporter; neuronal acetylcholine receptor protein alpha-3 chain precursor; sodium channel I; potassium channel protein CDRK; neuronal acetylcholine receptor protein alpha 6 subunit precursor (CHRNA6; ACRA6); calcium channel, alpha 1 beta; sodium channel, beta 1 subunit; PMCA; ATP2B2; calcium-transporting ATPase plasma membrane (brain isoform 2; EC 3.6.1.38); calcium pump; 17-kDa ubiquitin-conjugating enzyme E2 (UBE2B); ubiquitin-protein ligase; ubiquitin carrier protein; HR6B; synaptosomal associated protein 25; SNAP-25; SNAP; SNAP25; SUP; 67-kDa glutamic acid decarboxylase (GAD67); GAD1; eek proto-oncogene, protein tyrosine kinase, eph/elk-related; D(1A) DOPAMINE RECEPTOR; growth hormone receptor precursor (GH receptor; GHR); serum-binding protein; NMDAR2A N-METHYL-D-ASPARTATE RECEPTOR SUBUNIT; 5-hydroxytryptamine (serotonin) receptor 1B; 5-HT1B; thyroid hormone beta receptor; c-erbA-beta; gamma-

aminobutyric acid (GABA-A) receptor, beta 3 subunit; glutamate receptor 2 precursor (GLUR-2; GLUR-B; GLUR-K2); glutamate receptor 4 precursor (GLUR-4; GLUR-D); cannabinoid receptor 1, neuronal; neuromedin K receptor (NKR); neurokinin B receptor; NK-3 receptor (NK-3R); GABA-A receptor gamma-2 subunit precursor; galanin receptor 2; insulin-like growth factor binding protein 1 precursor (IGFBP-1; IBP-1); presomatotropin; protein kinase C beta-I type (PKC-beta I) + protein kinase C beta-II type (PKC-beta II); guanine nucleotide-binding protein G(O) alpha subunit (GNAO; GNA0); guanine nucleotide-binding protein G(I) alpha 1 subunit (GNAI1); adenylate cyclase-inhibiting G alpha protein; serine/threonine kinase PCTAIRE2 (PCTK2); protein kinase C-binding protein nel homolog 1; PKI-alpha; cAMP-dependent protein kinase inhibitor (muscle/brain form); 14-3-3 protein eta; PKC inhibitor protein-1; KCIP-1; and NVP; neural visinin-like Ca²⁺-binding protein, VISININ-LIKE PROTEIN 1 (VILIP-1) (NEURAL VISININ-LIKE PROTEIN 1) (NVL-1) (NVP-1) (21 KD CABP), whereby neuronal cell death in the mammal is inhibited or prevented.

11. A method of preventing neuronal cell death in a mammal, comprising:
 administering to the mammal a purified human neuronal marker (NM) protein selected from the group consisting of: NM androgen binding protein; plasma kallikrein (rPK); Lim-2; embryonic motor neuron topographic organizer, HOMEODOMAIN PROTEIN LIM-2 (LIM/HOMEODOMAIN PROTEIN LHX5); DCC; netrin receptor; immunoglobulin gene superfamily member; former tumor suppressor protein candidate; N-myc proto-oncogene protein; M-phase inducer phosphatase 2 (MPI2); cell division control protein 25 B (CDC25B); von ebner's gland protein 2; VEG protein 2; VEGP2 + von ebner's gland protein 1; VEG protein 1; VEGP1; VEGP; synaptobrevin 1 (SYB1); vesicle-associated membrane protein 1 (VAMP1); 3-methylcholanthrene-inducible cytochrome P450 (P450MC); cytochrome P450 IA1 (CYPIA1); cytochrome P450 VII (CYP7); cholesterol 7-alpha-monooxygenase; cholesterol 7-alpha-hydroxylase; cyclic nucleotide-activated channel, olfactory; cytochrome P450 2E1 (CYP2E1); P450-J; P450RLM6; high affinity L-proline transporter; neuronal acetylcholine receptor protein alpha-3 chain precursor; sodium channel I; voltage-dependent L-type calcium channel alpha 1C subunit (CACNA1); cardiac muscle L-type calcium channel alpha 1 polypeptide isoform 1 (CCHL1A1); rat brain class C (RBC); CACH2; CACN2; ATPase, hydrogen-potassium, alpha 2a subunit; sodium channel, amiloride sensitive, alpha subunit; SCNEA; alpha NACH; SCNN1A;

RENAC; ; cardiac specific sodium channel alpha subunit; potassium channel protein CDRK; neuronal acetylcholine receptor protein alpha 5 subunit precursor (CHRNA5; ACRA5); sodium channel SHRSPHD, gamma subunit, epithelial; sodium channel protein 6 (SCP6); renal organic anion transporter (ROAT1) + multispecific organic anion transporter (OAT1); neuronal acetylcholine receptor protein alpha 6 subunit precursor (CHRNA6; ACRA6); purinergic receptor P2X3, ligand-gated ion channel; calcium channel, alpha 1 beta; sodium channel, beta 1 subunit; neuronal acetylcholine receptor protein alpha 7 subunit precursor (CHRNA7; ACRA7); neuronal nicotinic acetylcholine receptor alpha 2 subunit; proton gated cation channel drasic; sensory neuron specific; channel-inducing factor precursor (CHIF); corticosteroid-induced protein; MYELIN BASIC PROTEIN S (MBP S); organic cation transporter 2 (OCT2); ASIC1 proton gated cation channel; glycine receptor alpha 3 subunit precursor (GLRA3); voltage-gated K⁺ channel protein; RK5; potassium channel protein; voltage-activated calcium channel alpha-1 subunit (RBE-II); nickel-sensitive T-type calcium channel alpha-1 subunit; inward rectifier potassium channel subfamily J member 2 (KCNJ2); RBL-IRK1; eek proto-oncogene, protein tyrosine kinase, eph/elk-related; prostaglandin D2 receptor; activin receptor type I precursor (ACVR1; ACTR1); serine/threonine-protein kinase receptor R1 (SKR1); TGF-B superfamily receptor type I (TSR-I); ACVRLK2; calcitonin receptor precursor (CT-R); C1A/C1B; prostaglandin E2 receptor EP2 subtype (PGE receptor EP2 subtype; PTGER2); prostanoid EP2 receptor; NEUREXIN I-BETA PRECURSOR, Non-processed neurexin I-beta Synaptic cell surface proteins + NEUREXIN I-ALPHA PRECURSOR, Non-processed neurexin I-alpha Synaptic cell surface proteins; gastrin-releasing peptide precursor (GRP); neuromedin C; serotonin receptor; 5-hydroxytryptamine 6 receptor (5-HT-6); ST-B17; possesses high affinity for tricyclic psychotropic drugs; platelet activating factor receptor; alpha 2B adrenergic receptor (ADRA2B); alpha 2B adrenoceptor; VASOACTIVE INTESTINAL POLYPEPTIDE RECEPTOR 2 PRECURSOR (VIP-R-2) (PITUITARY ADENYLATE CYCLASE ACTIVATING POLYPEPTIDE TYPE III RECEPTOR) (PACAP TYPE III RECEPTOR) (PACAP-R-3).; transforming growth factor beta 3 (TGF-beta3); antiproliferative growth factor; vasopressin V1b receptor; prostaglandin E2 receptor EP4 subtype; alpha 2C adrenergic receptor (ADRA2C); alpha 2C adrenoceptor; vasopressin/arginine receptor, V1a; prostaglandin F2 alpha receptor; growth hormone secretagogue receptor 1 (GHSR); cholecystokinin receptor;

NMDAR2A N-METHYL-D-ASPARTATE RECEPTOR SUBUNIT; P2U PURINOCEPTOR 1 (ATP RECEPTOR) (P2U1) (PURINERGIC RECEPTOR).; estrogen receptor beta (ER-beta); ESR2; NR3A2; kappa-type opioid receptor (KOR-1); lutropin-choriogonadotropic hormone receptor; beta 1 adrenergic receptor (ADRB1R); 5-hydroxytryptamine (serotonin) receptor 1B; 5-HT1B; adrenergic receptor, beta 2; muscarinic acetylcholine receptor M3 (MACHR); B1 bradikinin receptor; mu opioid receptor (MUOR1); mu-type opioid receptor (MOR-1); opioid receptor B; serotonin 5HT2 receptor; somatostatin receptor 2; melatonin receptor; somatostatin receptor; galanin receptor 1; neuromedin B receptor; transmembrane receptor UNC5H1.; pancreatic polypeptide receptor PP1; interleukin-2 (IL-2); somatostatin; luteinizing hormone, alpha; mast cell protease 1 precursor (RMCP-1); secretory protein probasin (M-40); E-selectin precursor; endothelial leukocyte adhesion molecule 1 (ELAM-1); leukocyte-endothelial cell adhesion molecule 2 (LECAM2); CD62E; Protein kinase C-binding protein beta15; RING-domain containing; kidney band 3 anion exchange protein; SLC4A1; AE1; L-selectin precursor; lymph node homing receptor; leukocyte adhesion molecule-1 (LAM-1); LY-22; lymphocyte surface MEL-14 antigen; leukocyte-endothelial cell adhesion molecule 1 (LECAM1); CD62L; Wilms' tumor protein (WT1); tumor suppressor; CD28, T-cell surface antigen; c-fgr proto-oncogene ; CD3, gamma chain; cathepsin E; S-myc proto-oncogene protein; myc-related ; G protein-activated inward rectifier potassium channel 4 (GIRK4); inward rectifier potassium channel subfamily J member 5 (KCNJ5); heart KATP channel; KATP-1; cardiac inward rectifier (CIR); KIR3.4; fructose (glucose) transporter; sodium channel protein 6 (SCP6); sodium channel, beta 1 subunit; sodium-hydrogen exchange protein-isoform 2 (NHE-2); PMCA; ATP2B2; calcium-transporting ATPase plasma membrane (brain isoform 2; EC 3.6.1.38); calcium pump; ATPase, sodium/potassium, gamma subunit; G protein-activated inward rectifier potassium channel 1 (GIRK1); inward rectifier potassium channel subfamily J member 3 (KCNJ3); KGA; KGB1; KIR3.1; proton gated cation channel drasic; sensory neuron specific; sodium channel 2, brain; ATPase, copper-transporting, Menkes protein; channel-inducing factor precursor (CHIF); corticosteroid-induced protein; synaptotagmin II; carbonic anhydrase 4; calcitonin receptor precursor (CT-R); C1A/C1B; vasopressin V2 receptor; 5-hydroxytryptamine (serotonin) receptor 1B; 5-HT1B; gamma-aminobutyric acid receptor alpha 4 subunit precursor (GABA(A) receptor; GABRA4); vitamin D3 receptor (VDR); 1,25-dihydroxyvitamin D-3 receptor; NR1H1;

muscarinic acetylcholine receptor M5 (CHRM5); somatostatin receptor; galanin receptor 1; granulocyte-macrophage colony-stimulating factor (GM-CSF); colony-stimulating factor (CSF); guanylyl cyclase (membrane form); parathyroid hormone receptor PTH2; galanin receptor 2; 5-hydroxytryptamine (serotonin) receptor 2B; guanine nucleotide-binding protein G(I)/G(S)/G(O) gamma-7 subunit (GNG7; GNGT7); adenylyl cyclase 4; protein kinase C-binding protein η 1 homolog 1; phospholipase C beta 3 (PLC-beta 3); tissue-type plasminogen activator (t-PA); NVP; neural visinin-like Ca^{2+} -binding protein, VISININ-LIKE PROTEIN 1 (VILIP-1) (NEURAL VISININ-LIKE PROTEIN 1) (NVL-1) (NVP-1) (21 KD CABP).; T-cell receptor CD3 zeta subunit; P-selectin precursor; granule membrane protein 140 (GMP-140); PADGEM; CD62P; leukocyte-endothelial cell adhesion molecule 3 (LECAM3); T-cell receptor gamma subunit; kidney band 3 anion exchange protein; SLC4A1; AE1; L-selectin precursor; lymph node homing receptor; leukocyte adhesion molecule-1 (LAM-1); LY-22; lymphocyte surface MEL-14 antigen; leukocyte-endothelial cell adhesion molecule 1 (LECAM1); CD62L; myelin P0 protein precursor; MPZ; MAL; T-lymphocyte maturation-associated protein; myelin protein MVP17; ErbB3 EGF receptor-related proto-oncogene; HER3; CD 30L receptor; lymphocyte activation antigen CD30; Ki-1 antigen; CD30 precursor; zinc transporter (ZnT-1); CCHB3; calcium channel (voltage-gated; DIHYDROPYRIDINE-SENSITIVE L-TYPE, CALCIUM CHANNEL BETA-3 SUBUNIT.; water channel aquaporin 3 (AQP3); 3-methylcholanthrene-inducible cytochrome P450 (P450MC); cytochrome P450 IA1 (CYPIA1); sodium/potassium-transporting ATPase beta 1 subunit (ATP1B1); glucose transporter 3; ATP-sensitive inward rectifier potassium subfamily J member 8 (KCNJ8); UKATP-1; ATP-sensitive inwardly rectifying K^{+} channel KIR6.1; RIM; Rab3 effector in synaptic-vesicle fusion; neuronal acetylcholine receptor protein alpha-3 chain precursor; purinergic receptor P2X5, ligand-gated ion channel; sodium channel I; renal organic anion transporter (ROAT1) + multispecific organic anion transporter (OAT1); neuronal acetylcholine receptor protein alpha 6 subunit precursor (CHRNA6; ACRA6); sodium channel, beta 1 subunit; sodium-hydrogen exchange protein-isoform 2 (NHE-2); PMCA; ATP2B2; calcium-transporting ATPase plasma membrane (brain isoform 2; EC 3.6.1.38); calcium pump; fibrinogen beta subunit (FGB); sulfonyleurea receptor (SUR); glycine receptor alpha 3 subunit precursor (GLRA3); multidrug resistance protein 2 (MDR2); P-glycoprotein (PGY2); potassium channel, voltage gated, KV3.4; RAW3; KCNC4; sodium/chloride

cotransporter, thiazide sensitive; synaptosomal associated protein 25; SNAP-25; SNAP; SNAP25; SUP; calcitonin receptor precursor (CT-R); C1A/C1B; gamma-aminobutyric acid (GABA-A) receptor, beta 1 subunit; NEUREXIN I-BETA PRECURSOR, Non-processed neurexin I-beta Synaptic cell surface proteins + NEUREXIN I-ALPHA PRECURSOR, Non-processed neurexin I-alpha Synaptic cell surface proteins; alpha 2B adrenergic receptor (ADRA2B); alpha 2B adrenoceptor; neuropeptide Y receptor type 1; prostaglandin E2 receptor EP4 subtype; alpha 2C adrenergic receptor (ADRA2C); alpha 2C adrenoceptor; c-ErbA oncogene; thyroid hormone receptor alpha-1 (THRA1); gamma-aminobutyric acid receptor alpha 2 subunit precursor (GABA(A) receptor; GABRA2); P2Y PURINOCEPTOR 6 (P2Y6); glutamate receptor 1 precursor (GluR-1); GluR-A; GluR-K1; gamma-aminobutyric acid receptor alpha 3 subunit precursor (GABA(A) receptor; GABRA3); NMDAR2A N-METHYL-D-ASPARTATE RECEPTOR SUBUNIT; P2U PURINOCEPTOR 1 (ATP RECEPTOR) (P2U1) (PURINERGIC RECEPTOR).; 5-hydroxytryptamine (serotonin) receptor 1B; 5-HT1B; glycine receptor, alpha 2A subunit, inhibitory; parathyroid hormone receptor PTH2; 5-hydroxytryptamine 5A receptor (5HT5A; HTR5A); serotonin receptor; REC17; acetylcholine receptor alpha; brain natriuretic peptide (BNP); 5-kDa cardiac natriuretic peptide; ISO-ANP; luteinizing hormone, alpha; cocaine/amphetamine-induced rat transcript, CART; protein kinase C-binding protein nel homolog 1; 14-3-3 protein eta; PKC inhibitor protein-1; KCIP-1; plectin; NVP; neural visinin-like Ca²⁺-binding protein, VISININ-LIKE PROTEIN 1 (VILIP-1) (NEURAL VISININ-LIKE PROTEIN 1) (NVL-1) (NVP-1) (21 KD CABP).; syndecan 3; ras-GTPase-activating protein (GAP); ras p21 protein activator; p120GAP; interleukin-6 receptor beta chain; membrane glycoprotein gp130; prostatic secretory protein probasin (M-40); A-raf proto-oncogene; prothymosin-alpha (PTMA); cadherin 6 precursor; kidney-cadherin (K-cadherin); neurofibromin; neurofibromatosis protein type I (NF1); GTPase stimulatory protein; c-H-ras proto-oncogene; transforming G-protein p21; HSP84; HSP90-beta; heat shock 90kD protein; Neural adhesion molecule F3, RAT NEURAL ADHESION MOLECULE F3, COMPLETE CDS.; BIG-1 PROTEIN PRECURSOR; neural cell adhesion protein; neurite outgrowth-promotor; potassium channel protein; KSHIIIA3; ATP-sensitive inward rectifier potassium channel subfamily J member 1 (KCNJ1); KAB-1; KIR1.1; ROMK1; Band 3 (B3RP3), 3 Cl-HCO₃-anion exchanger; voltage-gated potassium channel protein KV1.1; RBK1; RCK1; KCNA1; potassium channel,

inward rectifier 9; taurine transporter; neuronal acetylcholine receptor protein alpha-3 chain precursor; sodium channel I; potassium channel protein CDRK; neuronal acetylcholine receptor protein alpha 6 subunit precursor (CHRNA6; ACRA6); calcium channel, alpha 1 beta; sodium channel, beta 1 subunit; PMCA; ATP2B2; calcium-transporting ATPase plasma membrane (brain isoform 2; EC 3.6.1.38); calcium pump; 17-kDa ubiquitin-conjugating enzyme E2 (UBE2B); ubiquitin-protein ligase; ubiquitin carrier protein; HR6B; synaptosomal associated protein 25; SNAP-25; SNAP; SNAP25; SUP; 67-kDa glutamic acid decarboxylase (GAD67); GAD1; eek proto-oncogene, protein tyrosine kinase, eph/elk-related; D(1A) DOPAMINE RECEPTOR; growth hormone receptor precursor (GH receptor; GHR); serum-binding protein; NMDAR2A N-METHYL-D-ASPARTATE RECEPTOR SUBUNIT; 5-hydroxytryptamine (serotonin) receptor 1B; 5-HT1B; thyroid hormone beta receptor; c-erbA-beta; gamma-aminobutyric acid (GABA-A) receptor, beta 3 subunit; glutamate receptor 2 precursor (GLUR-2; GLUR-B; GLUR-K2); glutamate receptor 4 precursor (GLUR-4; GLUR-D); cannabinoid receptor 1, neuronal; neuromedin K receptor (NKR); neurokinin B receptor; NK-3 receptor (NK-3R); GABA-A receptor gamma-2 subunit precursor; galanin receptor 2; insulin-like growth factor binding protein 1 precursor (IGFBP-1; IBP-1); presomatotropin; protein kinase C beta-I type (PKC-beta I) + protein kinase C beta-II type (PKC-beta II); guanine nucleotide-binding protein G(O) alpha subunit (GNAO; GNA0); guanine nucleotide-binding protein G(I) alpha 1 subunit (GNAI1); adenylate cyclase-inhibiting G alpha protein; serine/threonine kinase PCTAIRE2 (PCTK2); protein kinase C-binding protein nel homolog 1; PKI-alpha; cAMP-dependent protein kinase inhibitor (muscle/brain form); 14-3-3 protein eta; PKC inhibitor protein-1; KCIP-1; and NVP; neural visinin-like Ca²⁺-binding protein, VISININ-LIKE PROTEIN 1 (VILIP-1) (NEURAL VISININ-LIKE PROTEIN 1) (NVL-1) (NVP-1) (21 KD CABP), whereby neuronal cell death in the mammal is inhibited or prevented.

12. The method of claim 10 or 11 wherein the subject has optic nerve degeneration.
13. The method of claim 10 or 11 wherein the subject has Alzheimer's disease.
14. The method of claim 10 or 11 wherein the subject has diabetic retinopathy.

15. The method of claim 10 or 11 wherein the subject has Huntington's disease.
16. The method of claim 10 or 11 wherein the subject has spinal cord injury.
17. The method of claim 10 or 11 wherein the subject has Parkinson's disease.
18. The method of claim 10 or 11 wherein the subject has glaucoma.
19. The method of claim 10 or 11 wherein the subject has age-related macular degeneration.
20. A method of identifying regions of neuronal cell death in a patient, comprising:

administering to a patient a molecule comprising an antibody variable region which specifically binds to a neuronal marker (NM) protein selected from the group consisting of: microglobulin; beta-2-microglobulin + prostaglandin receptor F2a; glutathione S-transferase Yb subunit; GST subunit 4 mu (GSTM2); vascular cell adhesion protein 1 precursor (V-CAM 1); gamma-aminobutyric acid (GABA) transporter 2; VGF8A protein precursor; Transforming growth factor beta (TGF-beta) masking protein large subunit; erythropoietin precursor (EPO); protein arginine N-methyltransferase 1; signal transducer & activator of transcription 3 (STAT3); ceruloplasmin precursor (CP); ferroxidase; clusterin (CLU); testosterone-repressed prostate message 2 (TRPM2); apolipoprotein J; sulfated glycoprotein 2 (SGP2); dimeric acid glycoprotein (DAG); heparin-binding growth factor 2 precursor (HBGF2); basic fibroblast growth factor; (BFGF); fibroblast growth factor 2 (FGF2); prostatropin; and plasminogen activator inhibitor 2A, wherein the molecule is bound to a detectable moiety; and

detecting the detectable moiety in the patient, thereby identifying regions of neuronal cell death.

21. The method of claim 20 wherein the subject has optic nerve degeneration.
22. The method of claim 20 wherein the subject has Alzheimer's disease.
23. The method of claim 20 wherein the subject has diabetic retinopathy.
24. The method of claim 20 wherein the subject has Huntington's disease.
25. The method of claim 20 wherein the subject has spinal cord injury.
26. The method of claim 20 wherein the subject has Parkinson's disease.
27. The method of claim 20 wherein the subject has glaucoma.

28. The method of claim 20 wherein the subject has age-related macular degeneration.

29. A method of screening for neuronal cell death in a patient, comprising:
contacting a body fluid collected from the patient with a molecule comprising an antibody variable region which specifically binds to a neuronal marker (NM) protein selected from the group consisting of: microglobulin; beta-2-microglobulin + prostaglandin receptor F2a; glutathione S-transferase Yb subunit; GST subunit 4 mu (GSTM2); vascular cell adhesion protein 1 precursor (V-CAM 1); gamma-aminobutyric acid (GABA) transporter 2; VGF8A protein precursor; Transforming growth factor beta (TGF-beta) masking protein large subunit; erythropoietin precursor (EPO); protein arginine N-methyltransferase 1; signal transducer & activator of transcription 3 (STAT3); ceruloplasmin precursor (CP); ferroxidase; clusterin (CLU); testosterone-repressed prostate message 2 (TRPM2); apolipoprotein J; sulfated glycoprotein 2 (SGP2); dimeric acid glycoprotein (DAG); heparin-binding growth factor 2 precursor (HBGF2); basic fibroblast growth factor; (BFGF); fibroblast growth factor 2 (FGF2); prostatin; and plasminogen activator inhibitor 2A, wherein detection of cross-reactive material in the body fluid with the molecule indicates neuronal cell death in the patient.

30. A method of promoting neuronal cell death in a patient, comprising:
administering to a patient in need of neuronal cell death a neuronal marker (NM) protein selected from the group consisting of: microglobulin; beta-2-microglobulin + prostaglandin receptor F2a; glutathione S-transferase Yb subunit; GST subunit 4 mu (GSTM2); vascular cell adhesion protein 1 precursor (V-CAM 1); gamma-aminobutyric acid (GABA) transporter 2; VGF8A protein precursor; Transforming growth factor beta (TGF-beta) masking protein large subunit; erythropoietin precursor (EPO); protein arginine N-methyltransferase 1; signal transducer & activator of transcription 3 (STAT3); ceruloplasmin precursor (CP); ferroxidase; clusterin (CLU); testosterone-repressed prostate message 2 (TRPM2); apolipoprotein J; sulfated glycoprotein 2 (SGP2); dimeric acid glycoprotein (DAG); heparin-binding growth factor 2 precursor (HBGF2); basic fibroblast growth factor; (BFGF); fibroblast growth factor 2 (FGF2); prostatin; and plasminogen activator inhibitor 2A, whereby neuronal cell death in the patient is stimulated.

31. The method of claim 30 wherein the patient has a neuronal tumor.

32. A method of promoting neuronal cell death in a patient, comprising:
administering to a patient in need of neuronal cell death a nucleic acid molecule encoding a neuronal marker (NM) protein selected from the group consisting of microglobulin; beta-2-microglobulin + prostaglandin receptor F2a; glutathione S-transferase Yb subunit; GST subunit 4 mu (GSTM2); vascular cell adhesion protein 1 precursor (V-CAM 1); gamma-aminobutyric acid (GABA) transporter 2; VGF8A protein precursor; Transforming growth factor beta (TGF-beta) masking protein large subunit; erythropoietin precursor (EPO); protein arginine N-methyltransferase 1; signal transducer & activator of transcription 3 (STAT3); ceruloplasmin precursor (CP); ferroxidase; clusterin (CLU); testosterone-repressed prostate message 2 (TRPM2); apolipoprotein J; sulfated glycoprotein 2 (SGP2); dimeric acid glycoprotein (DAG); heparin-binding growth factor 2 precursor (HBGF2); basic fibroblast growth factor; (BFGF); fibroblast growth factor 2 (FGF2); prostatropin; and plasminogen activator inhibitor 2A, whereby the NM protein is expressed and neuronal cell death in the patient is stimulated.

33. The method of claim 32 wherein the patient has a neuronal tumor.

34. A method of screening for neuronal cell death in a patient, comprising:
detecting a neuronal marker (NM) protein selected from the group consisting of microglobulin; beta-2-microglobulin + prostaglandin receptor F2a; glutathione S-transferase Yb subunit; GST subunit 4 mu (GSTM2); vascular cell adhesion protein 1 precursor (V-CAM 1); gamma-aminobutyric acid (GABA) transporter 2; VGF8A protein precursor; Transforming growth factor beta (TGF-beta) masking protein large subunit; erythropoietin precursor (EPO); protein arginine N-methyltransferase 1; signal transducer & activator of transcription 3 (STAT3); ceruloplasmin precursor (CP); ferroxidase; clusterin (CLU); testosterone-repressed prostate message 2 (TRPM2); apolipoprotein J; sulfated glycoprotein 2 (SGP2); dimeric acid glycoprotein (DAG); heparin-binding growth factor 2 precursor (HBGF2); basic fibroblast growth factor; (BFGF); fibroblast growth factor 2 (FGF2); prostatropin; and plasminogen activator inhibitor 2A, in a body fluid collected from the patient, wherein detection of the NM protein indicates neuronal cell death in the patient.

35. A method of screening for neuronal cell death in a patient, comprising:
detecting in a body fluid collected from the patient a nucleic acid encoding a neuronal marker (NM) protein selected from the group consisting of: microglobulin; beta-2-

microglobulin + prostaglandin receptor F2a; glutathione S-transferase Yb subunit; GST subunit 4 mu (GSTM2); vascular cell adhesion protein 1 precursor (V-CAM 1); gamma-aminobutyric acid (GABA) transporter 2; VGF8A protein precursor; Transforming growth factor beta (TGF-beta) masking protein large subunit; erythropoietin precursor (EPO); protein arginine N-methyltransferase 1; signal transducer & activator of transcription 3 (STAT3); ceruloplasmin precursor (CP); ferroxidase; clusterin (CLU); testosterone-repressed prostate message 2 (TRPM2); apolipoprotein J; sulfated glycoprotein 2 (SGP2); dimeric acid glycoprotein (DAG); heparin-binding growth factor 2 precursor (HBGF2); basic fibroblast growth factor; (BFGF); fibroblast growth factor 2 (FGF2); prostatropin; and plasminogen activator inhibitor 2A, wherein detection of the NM protein indicates neuronal cell death in the patient.

36. A method to identify candidate drugs for treating neuronal cell death, comprising:

contacting cells which express one or more neuronal marker (NM) genes selected from the group consisting of: microglobulin; beta-2-microglobulin + prostaglandin receptor F2a; glutathione S-transferase Yb subunit; GST subunit 4 mu (GSTM2); vascular cell adhesion protein 1 precursor (V-CAM 1); gamma-aminobutyric acid (GABA) transporter 2; VGF8A protein precursor; Transforming growth factor beta (TGF-beta) masking protein large subunit; erythropoietin precursor (EPO); protein arginine N-methyltransferase 1; signal transducer & activator of transcription 3 (STAT3); ceruloplasmin precursor (CP); ferroxidase; clusterin (CLU); testosterone-repressed prostate message 2 (TRPM2); apolipoprotein J; sulfated glycoprotein 2 (SGP2); dimeric acid glycoprotein (DAG); heparin-binding growth factor 2 precursor (HBGF2); basic fibroblast growth factor; (BFGF); fibroblast growth factor 2 (FGF2); prostatropin; and plasminogen activator inhibitor 2A, with a test compound;

determining expression of said one or more NM genes by hybridization of mRNA of said cells to a nucleic acid probe which is complementary to said mRNA; and

identifying a test compound as a candidate drug for treating neuronal cell death if it decreases expression of said one or more NM genes.

37. The method of claim 36 wherein the cells are retinal cells.

38. The method of claim 36 wherein the cells are recombinant host cells which are transfected with an expression construct which encodes said one or more NMs.

39. A method to identify candidate drugs for treating neuronal cell death, comprising:

contacting cells which express one or more neuronal marker (NM) proteins selected from the group consisting of: microglobulin; beta-2-microglobulin + prostaglandin receptor F2a; glutathione S-transferase Yb subunit; GST subunit 4 mu (GSTM2); vascular cell adhesion protein 1 precursor (V-CAM 1); gamma-aminobutyric acid (GABA) transporter 2; VGF8A protein precursor; Transforming growth factor beta (TGF-beta) masking protein large subunit; erythropoietin precursor (EPO); protein arginine N-methyltransferase 1; signal transducer & activator of transcription 3 (STAT3); ceruloplasmin precursor (CP); ferroxidase; clusterin (CLU); testosterone-repressed prostate message 2 (TRPM2); apolipoprotein J; sulfated glycoprotein 2 (SGP2); dimeric acid glycoprotein (DAG); heparin-binding growth factor 2 precursor (HBGF2); basic fibroblast growth factor; (BFGF); fibroblast growth factor 2 (FGF2); prostaticin; and plasminogen activator inhibitor 2A, with a test compound;

determining amount of said one or more NM proteins in said cells; and

identifying a test compound as a candidate drug for treating tumors if it decreases the amount of one more NM proteins in said cells.

40. The method of claim 39 wherein the cells are retinal cells.

41. The method of claim 39 wherein the cells are recombinant host cells which are transfected with an expression construct which encodes said one or more NMs.

42. A method to identify candidate drugs for treating neuronal cell death, comprising:

contacting cells which express one or more neuronal marker (NM) proteins selected from the group consisting of: microglobulin; beta-2-microglobulin + prostaglandin receptor F2a; glutathione S-transferase Yb subunit; GST subunit 4 mu (GSTM2); vascular cell adhesion protein 1 precursor (V-CAM 1); gamma-aminobutyric acid (GABA) transporter 2; VGF8A protein precursor; Transforming growth factor beta (TGF-beta) masking protein large

subunit; erythropoietin precursor (EPO); protein arginine N-methyltransferase 1; signal transducer & activator of transcription 3 (STAT3); ceruloplasmin precursor (CP); ferroxidase; clusterin (CLU); testosterone-repressed prostate message 2 (TRPM2); apolipoprotein J; sulfated glycoprotein 2 (SGP2); dimeric acid glycoprotein (DAG); heparin-binding growth factor 2 precursor (HBGF2); basic fibroblast growth factor; (BFGF); fibroblast growth factor 2 (FGF2); prostatropin; and plasminogen activator inhibitor 2A with a test compound;

determining activity of said one or more NM proteins in said cells; and

identifying a test compound as a candidate drug for treating neuronal cell death if it decreases the activity of one more NM proteins in said cells.

43. The method of claim 42 wherein the cells are retinal cells.

44. The method of claim 42 wherein the cells are recombinant host cells which are transfected with an expression construct which encodes said one or more NMs.

45. A method to identify candidate drugs for treating neuronal cell death, comprising:

contacting cells which express one or more neuronal marker (NM) genes selected from the group consisting of androgen binding protein; plasma kallikrein (rPK); Lim-2; embryonic motor neuron topographic organizer, HOMEODOMAIN PROTEIN LIM-2 (LIM/HOMEODOMAIN PROTEIN LHX5); DCC; netrin receptor; immunoglobulin gene superfamily member; former tumor suppressor protein candidate; N-myc proto-oncogene protein; M-phase inducer phosphatase 2 (MPI2); cell division control protein 25 B (CDC25B); von ebner's gland protein 2; VEG protein 2; VEGP2 + von ebner's gland protein 1; VEG protein 1; VEGP1; VEGP; synaptobrevin 1 (SYB1); vesicle-associated membrane protein 1 (VAMP1); 3-methylcholanthrene-inducible cytochrome P450 (P450MC); cytochrome P450 IA1 (CYPIA1); cytochrome P450 VII (CYP7); cholesterol 7-alpha-monooxygenase; cholesterol 7-alpha-hydroxylase; cyclic nucleotide-activated channel, olfactory; cytochrome P450 2E1 (CYP2E1); P450-J; P450RLM6; high affinity L-proline transporter; neuronal acetylcholine receptor protein alpha-3 chain precursor; sodium channel I; voltage-dependent L-type calcium channel alpha 1C subunit (CACNA1); cardiac muscle L-type calcium channel alpha 1 polypeptide isoform 1 (CCHL1A1); rat brain class C (RBC); CACH2; CACN2; ATPase, hydrogen-potassium, alpha 2a

subunit; sodium channel, amiloride sensitive, alpha subunit; SCNEA; alpha NACH; SCNN1A; RENAC; ; cardiac specific sodium channel alpha subunit; potassium channel protein CDRK; neuronal acetylcholine receptor protein alpha 5 subunit precursor (CHRNA5; ACRA5); sodium channel SHRSPHD, gamma subunit, epithelial; sodium channel protein 6 (SCP6); renal organic anion transporter (ROAT1) + multispecific organic anion transporter (OAT1); neuronal acetylcholine receptor protein alpha 6 subunit precursor (CHRNA6; ACRA6); purinergic receptor P2X3, ligand-gated ion channel; calcium channel, alpha 1 beta; sodium channel, beta 1 subunit; neuronal acetylcholine receptor protein alpha 7 subunit precursor (CHRNA7; ACRA7); neuronal nicotinic acetylcholine receptor alpha 2 subunit; proton gated cation channel drasic; sensory neuron specific; channel-inducing factor precursor (CHIF); corticosteroid-induced protein; MYELIN BASIC PROTEIN S (MBP S); organic cation transporter 2 (OCT2); ASIC1 proton gated cation channel; glycine receptor alpha 3 subunit precursor (GLRA3); voltage-gated K⁺ channel protein; RK5; potassium channel protein; voltage-activated calcium channel alpha-1 subunit (RBE-II); nickel-sensitive T-type calcium channel alpha-1 subunit; inward rectifier potassium channel subfamily J member 2 (KCNJ2); RBL-IRK1; eek proto-oncogene, protein tyrosine kinase, eph/elk-related; prostaglandin D2 receptor; activin receptor type I precursor (ACVR1; ACTR1); serine/threonine-protein kinase receptor R1 (SKR1); TGF-B superfamily receptor type I (TSR-I); ACVRLK2; calcitonin receptor precursor (CT-R); C1A/C1B; prostaglandin E2 receptor EP2 subtype (PGE receptor EP2 subtype; PTGER2); prostanoid EP2 receptor; NEUREXIN I-BETA PRECURSOR, Non-processed neurexin I-beta Synaptic cell surface proteins + NEUREXIN I-ALPHA PRECURSOR, Non-processed neurexin I-alpha Synaptic cell surface proteins; gastrin-releasing peptide precursor (GRP); neuromedin C; serotonin receptor; 5-hydroxytryptamine 6 receptor (5-HT-6); ST-B17; possesses high affinity for tricyclic psychotropic drugs; platelet activating factor receptor; alpha 2B adrenergic receptor (ADRA2B); alpha 2B adrenoceptor; VASOACTIVE INTESTINAL POLYPEPTIDE RECEPTOR 2 PRECURSOR (VIP-R-2) (PITUITARY ADENYLATE CYCLASE ACTIVATING POLYPEPTIDE TYPE III RECEPTOR) (PACAP TYPE III RECEPTOR) (PACAP-R-3).; transforming growth factor beta 3 (TGF-beta3); antiproliferative growth factor; vasopressin V1b receptor; prostaglandin E2 receptor EP4 subtype; alpha 2C adrenergic receptor (ADRA2C); alpha 2C adrenoceptor; vasopressin/arginine receptor, V1a; prostaglandin F2 alpha

receptor; growth hormone secretagogue receptor 1 (GHSR); cholecystokinin receptor; NMDAR2A N-METHYL-D-ASPARTATE RECEPTOR SUBUNIT; P2U PURINOCEPTOR 1 (ATP RECEPTOR) (P2U1) (PURINERGIC RECEPTOR).; estrogen receptor beta (ER-beta); ESR2; NR3A2; kappa-type opioid receptor (KOR-1); lutropin-choriogonadotropic hormone receptor; beta 1 adrenergic receptor (ADRB1R); 5-hydroxytryptamine (serotonin) receptor 1B; 5-HT1B; adrenergic receptor, beta 2; muscarinic acetylcholine receptor M3 (MACHR); B1 bradikinin receptor; mu opioid receptor (MUOR1); mu-type opioid receptor (MOR-1); opioid receptor B; serotonin 5HT2 receptor; somatostatin receptor 2; melatonin receptor; somatostatin receptor; galanin receptor 1; neuromedin B receptor; transmembrane receptor UNC5H1.; pancreatic polypeptide receptor PP1; interleukin-2 (IL-2); somatostatin; luteinizing hormone, alpha; mast cell protease 1 precursor (RMCP-1); secretory protein probasin (M-40); E-selectin precursor; endothelial leukocyte adhesion molecule 1 (ELAM-1); leukocyte-endothelial cell adhesion molecule 2 (LECAM2); CD62E; Protein kinase C-binding protein beta15; RING-domain containing; kidney band 3 anion exchange protein; SLC4A1; AE1; L-selectin precursor; lymph node homing receptor; leukocyte adhesion molecule-1 (LAM-1); LY-22; lymphocyte surface MEL-14 antigen; leukocyte-endothelial cell adhesion molecule 1 (LECAM1); CD62L; Wilms' tumor protein (WT1); tumor suppressor; CD28, T-cell surface antigen; c-fgr proto-oncogene ; CD3, gamma chain; cathepsin E; S-myc proto-oncogene protein; myc-related ; G protein-activated inward rectifier potassium channel 4 (GIRK4); inward rectifier potassium channel subfamily J member 5 (KCNJ5); heart KATP channel; KATP-1; cardiac inward rectifier (CIR); KIR3.4; fructose (glucose) transporter; sodium channel protein 6 (SCP6); sodium channel, beta 1 subunit; sodium-hydrogen exchange protein-isoform 2 (NHE-2); PMCA; ATP2B2; calcium-transporting ATPase plasma membrane (brain isoform 2; EC 3.6.1.38); calcium pump; ATPase, sodium/potassium, gamma subunit; G protein-activated inward rectifier potassium channel 1 (GIRK1); inward rectifier potassium channel subfamily J member 3 (KCNJ3); KGA; KGB1; KIR3.1; proton gated cation channel drasic; sensory neuron specific; sodium channel 2, brain; ATPase, copper-transporting, Menkes protein; channel-inducing factor precursor (CHIF); corticosteroid-induced protein; synaptotagmin II; carbonic anhydrase 4; calcitonin receptor precursor (CT-R); C1A/C1B; vasopressin V2 receptor; 5-hydroxytryptamine (serotonin) receptor 1B; 5-HT1B; gamma-aminobutyric acid receptor alpha 4 subunit precursor (GABA(A) receptor;

GABRA4); vitamin D3 receptor (VDR); 1,25-dihydroxyvitamin D-3 receptor; NR1H1; muscarinic acetylcholine receptor M5 (CHRM5); somatostatin receptor; galanin receptor 1; granulocyte-macrophage colony-stimulating factor (GM-CSF); colony-stimulating factor (CSF); guanylyl cyclase (membrane form); parathyroid hormone receptor PTH2; galanin receptor 2; 5-hydroxytryptamine (serotonin) receptor 2B; guanine nucleotide-binding protein G(I)/G(S)/G(O) gamma-7 subunit (GNG7; GNGT7); adenylyl cyclase 4; protein kinase C-binding protein η homolog 1; phospholipase C beta 3 (PLC-beta 3); tissue-type plasminogen activator (t-PA); NVP; neural visinin-like Ca^{2+} -binding protein, VISININ-LIKE PROTEIN 1 (VILIP-1) (NEURAL VISININ-LIKE PROTEIN 1) (NVL-1) (NVP-1) (21 KD CABP).; T-cell receptor CD3 zeta subunit; P-selectin precursor; granule membrane protein 140 (GMP-140); PADGEM; CD62P; leukocyte-endothelial cell adhesion molecule 3 (LECAM3); T-cell receptor gamma subunit; kidney band 3 anion exchange protein; SLC4A1; AE1; L-selectin precursor; lymph node homing receptor; leukocyte adhesion molecule-1 (LAM-1); LY-22; lymphocyte surface MEL-14 antigen; leukocyte-endothelial cell adhesion molecule 1 (LECAM1); CD62L; myelin P0 protein precursor; MPZ; MAL; T-lymphocyte maturation-associated protein; myelin protein MVP17; ErbB3 EGF receptor-related proto-oncogene; HER3; CD 30L receptor; lymphocyte activation antigen CD30; Ki-1 antigen; CD30 precursor; zinc transporter (ZnT-1); CCHB3; calcium channel (voltage-gated; DIHYDROPYRIDINE-SENSITIVE L-TYPE, CALCIUM CHANNEL BETA-3 SUBUNIT.; water channel aquaporin 3 (AQP3); 3-methylcholanthrene-inducible cytochrome P450 (P450MC); cytochrome P450 IA1 (CYPIA1); sodium/potassium-transporting ATPase beta 1 subunit (ATP1B1); glucose transporter 3; ATP-sensitive inward rectifier potassium subfamily J member 8 (KCNJ8); UKATP-1; ATP-sensitive inwardly rectifying K^{+} channel KIR6.1; RIM; Rab3 effector in synaptic-vesicle fusion; neuronal acetylcholine receptor protein alpha-3 chain precursor; purinergic receptor P2X5, ligand-gated ion channel; sodium channel I; renal organic anion transporter (ROAT1) + multispecific organic anion transporter (OAT1); neuronal acetylcholine receptor protein alpha 6 subunit precursor (CHRNA6; ACRA6); sodium channel, beta 1 subunit; sodium-hydrogen exchange protein-isoform 2 (NHE-2); PMCA; ATP2B2; calcium-transporting ATPase plasma membrane (brain isoform 2; EC 3.6.1.38); calcium pump; fibrinogen beta subunit (FGB); sulfonyleurea receptor (SUR); glycine receptor alpha 3 subunit precursor (GLRA3); multidrug resistance protein 2 (MDR2); P-glycoprotein

(PGY2); potassium channel, voltage gated, KV3.4; RAW3; KCNC4; sodium/chloride cotransporter, thiazide sensitive; synaptosomal associated protein 25; SNAP-25; SNAP; SNAP25; SUP; calcitonin receptor precursor (CT-R); C1A/C1B; gamma-aminobutyric acid (GABA-A) receptor, beta 1 subunit; NEUREXIN I-BETA PRECURSOR, Non-processed neurexin I-beta Synaptic cell surface proteins + NEUREXIN I-ALPHA PRECURSOR, Non-processed neurexin I-alpha Synaptic cell surface proteins; alpha 2B adrenergic receptor (ADRA2B); alpha 2B adrenoceptor; neuropeptide Y receptor type 1; prostaglandin E2 receptor EP4 subtype; alpha 2C adrenergic receptor (ADRA2C); alpha 2C adrenoceptor; c-ErbA oncogene; thyroid hormone receptor alpha-1 (THRA1); gamma-aminobutyric acid receptor alpha 2 subunit precursor (GABA(A) receptor; GABRA2); P2Y PURINOCEPTOR 6 (P2Y6); glutamate receptor 1 precursor (GluR-1); GluR-A; GluR-K1; gamma-aminobutyric acid receptor alpha 3 subunit precursor (GABA(A) receptor; GABRA3); NMDAR2A N-METHYL-D-ASPARTATE RECEPTOR SUBUNIT; P2U PURINOCEPTOR 1 (ATP RECEPTOR) (P2U1) (PURINERGIC RECEPTOR).; 5-hydroxytryptamine (serotonin) receptor 1B; 5-HT1B; glycine receptor, alpha 2A subunit, inhibitory; parathyroid hormone receptor PTH2; 5-hydroxytryptamine 5A receptor (5HT5A; HTR5A); serotonin receptor; REC17; acetylcholine receptor alpha; brain natriuretic peptide (BNP); 5-kDa cardiac natriuretic peptide; ISO-ANP; luteinizing hormone, alpha; cocaine/amphetamine-induced rat transcript, CART; protein kinase C-binding protein nel homolog 1; 14-3-3 protein eta; PKC inhibitor protein-1; KCIP-1; plectin; NVP; neural visinin-like Ca²⁺-binding protein, VISININ-LIKE PROTEIN 1 (VILIP-1) (NEURAL VISININ-LIKE PROTEIN 1) (NVL-1) (NVP-1) (21 KD CABP).; syndecan 3; ras-GTPase-activating protein (GAP); ras p21 protein activator; p120GAP; interleukin-6 receptor beta chain; membrane glycoprotein gp130; prostatic secretory protein probasin (M-40); A-raf proto-oncogene; prothymosin-alpha (PTMA); cadherin 6 precursor; kidney-cadherin (K-cadherin); neurofibromin; neurofibromatosis protein type I (NF1); GTPase stimulatory protein; c-H-ras proto-oncogene; transforming G-protein p21; HSP84; HSP90-beta; heat shock 90kD protein; Neural adhesion molecule F3, RAT NEURAL ADHESION MOLECULE F3, COMPLETE CDS.; BIG-1 PROTEIN PRECURSOR; neural cell adhesion protein; neurite outgrowth-promotor; potassium channel protein; KSHIIIA3; ATP-sensitive inward rectifier potassium channel subfamily J member 1 (KCNJ1); KAB-1; KIR1.1; ROMK1; Band 3 (B3RP3), 3 Cl-HCO₃-anion exchanger;

voltage-gated potassium channel protein KV1.1; RBK1; RCK1; KCNA1; potassium channel, inward rectifier 9; taurine transporter; neuronal acetylcholine receptor protein alpha-3 chain precursor; sodium channel I; potassium channel protein CDRK; neuronal acetylcholine receptor protein alpha 6 subunit precursor (CHRNA6; ACRA6); calcium channel, alpha 1 beta; sodium channel, beta 1 subunit; PMCA; ATP2B2; calcium-transporting ATPase plasma membrane (brain isoform 2; EC 3.6.1.38); calcium pump; 17-kDa ubiquitin-conjugating enzyme E2 (UBE2B); ubiquitin-protein ligase; ubiquitin carrier protein; HR6B; synaptosomal associated protein 25; SNAP-25; SNAP; SNAP25; SUP; 67-kDa glutamic acid decarboxylase (GAD67); GAD1; eek proto-oncogene, protein tyrosine kinase, eph/elk-related; D(1A) DOPAMINE RECEPTOR; growth hormone receptor precursor (GH receptor; GHR); serum-binding protein; NMDAR2A N-METHYL-D-ASPARTATE RECEPTOR SUBUNIT; 5-hydroxytryptamine (serotonin) receptor 1B; 5-HT1B; thyroid hormone beta receptor; c-erbA-beta; gamma-aminobutyric acid (GABA-A) receptor, beta 3 subunit; glutamate receptor 2 precursor (GLUR-2; GLUR-B; GLUR-K2); glutamate receptor 4 precursor (GLUR-4; GLUR-D); cannabinoid receptor 1, neuronal; neuromedin K receptor (NKR); neurokinin B receptor; NK-3 receptor (NK-3R); GABA-A receptor gamma-2 subunit precursor; galanin receptor 2; insulin-like growth factor binding protein 1 precursor (IGFBP-1; IBP-1); presomatotropin; protein kinase C beta-I type (PKC-beta I) + protein kinase C beta-II type (PKC-beta II); guanine nucleotide-binding protein G(O) alpha subunit (GNAO; GNA0); guanine nucleotide-binding protein G(I) alpha 1 subunit (GNAI1); adenylate cyclase-inhibiting G alpha protein; serine/threonine kinase PCTAIRE2 (PCTK2); protein kinase C-binding protein nel homolog 1; PKI-alpha; cAMP-dependent protein kinase inhibitor (muscle/brain form); 14-3-3 protein eta; PKC inhibitor protein-1; KCIP-1; and NVP; neural visinin-like Ca²⁺-binding protein, VISININ-LIKE PROTEIN 1 (VILIP-1) (NEURAL VISININ-LIKE PROTEIN 1) (NVL-1) (NVP-1) (21 KD CABP), with a test compound;

determining expression of said one or more NM genes by hybridization of mRNA of said cells to a nucleic acid probe which is complementary to said mRNA; and

identifying a test compound as a candidate drug for treating neuronal cell death if it increases expression of said one or more NM genes.

46. The method of claim 45 wherein the cells are retinal cells.

47. The method of claim 45 wherein the cells are recombinant host cells which are transfected with an expression construct which encodes said one or more NMs.

48. A method to identify candidate drugs for treating neuronal cell death, comprising:

contacting cells which express one or more neuronal marker (NM) proteins selected from the group consisting of: androgen binding protein; plasma kallikrein (rPK); Lim-2; embryonic motor neuron topographic organizer, HOMEODOMAIN PROTEIN LIM-2 (LIM/HOMEODOMAIN PROTEIN LHX5); DCC; netrin receptor; immunoglobulin gene superfamily member; former tumor suppressor protein candidate; N-myc proto-oncogene protein; M-phase inducer phosphatase 2 (MPI2); cell division control protein 25 B (CDC25B); von ebner's gland protein 2; VEG protein 2; VEGP2 + von ebner's gland protein 1; VEG protein 1; VEGP1; VEGP; synaptobrevin 1 (SYB1); vesicle-associated membrane protein 1 (VAMP1); 3-methylcholanthrene-inducible cytochrome P450 (P450MC); cytochrome P450 IA1 (CYPIA1); cytochrome P450 VII (CYP7); cholesterol 7-alpha-monooxygenase; cholesterol 7-alpha-hydroxylase; cyclic nucleotide-activated channel, olfactory; cytochrome P450 2E1 (CYP2E1); P450-J; P450RLM6; high affinity L-proline transporter; neuronal acetylcholine receptor protein alpha-3 chain precursor; sodium channel I; voltage-dependent L-type calcium channel alpha 1C subunit (CACNA1); cardiac muscle L-type calcium channel alpha 1 polypeptide isoform 1 (CCHL1A1); rat brain class C (RBC); CACH2; CACN2; ATPase, hydrogen-potassium, alpha 2a subunit; sodium channel, amiloride sensitive, alpha subunit; SCNEA; alpha NACH; SCNN1A; RENAC; ; cardiac specific sodium channel alpha subunit; potassium channel protein CDRK; neuronal acetylcholine receptor protein alpha 5 subunit precursor (CHRNA5; ACRA5); sodium channel SHRSPHD, gamma subunit, epithelial; sodium channel protein 6 (SCP6); renal organic anion transporter (ROAT1) + multispecific organic anion transporter (OAT1); neuronal acetylcholine receptor protein alpha 6 subunit precursor (CHRNA6; ACRA6); purinergic receptor P2X3, ligand-gated ion channel; calcium channel, alpha 1 beta; sodium channel, beta 1 subunit; neuronal acetylcholine receptor protein alpha 7 subunit precursor (CHRNA7; ACRA7); neuronal nicotinic acetylcholine receptor alpha 2 subunit; proton gated cation channel drasic; sensory neuron specific; channel-inducing factor precursor (CHIF); corticosteroid-induced

protein; MYELIN BASIC PROTEIN S (MBP S); organic cation transporter 2 (OCT2); ASIC1 proton gated cation channel; glycine receptor alpha 3 subunit precursor (GLRA3); voltage-gated K⁺ channel protein; RK5; potassium channel protein; voltage-activated calcium channel alpha-1 subunit (RBE-II); nickel-sensitive T-type calcium channel alpha-1 subunit; inward rectifier potassium channel subfamily J member 2 (KCNJ2); RBL-IRK1; eek proto-oncogene, protein tyrosine kinase, eph/elk-related; prostaglandin D2 receptor; activin receptor type I precursor (ACVR1; ACTR1); serine/threonine-protein kinase receptor R1 (SKR1); TGF-B superfamily receptor type I (TSR-I); ACVRLK2; calcitonin receptor precursor (CT-R); C1A/C1B; prostaglandin E2 receptor EP2 subtype (PGE receptor EP2 subtype; PTGER2); prostanoid EP2 receptor; NEUREXIN I-BETA PRECURSOR, Non-processed neurexin I-beta Synaptic cell surface proteins + NEUREXIN I-ALPHA PRECURSOR, Non-processed neurexin I-alpha Synaptic cell surface proteins; gastrin-releasing peptide precursor (GRP); neuromedin C; serotonin receptor; 5-hydroxytryptamine 6 receptor (5-HT-6); ST-B17; possesses high affinity for tricyclic psychotropic drugs; platelet activating factor receptor; alpha 2B adrenergic receptor (ADRA2B); alpha 2B adrenoceptor; VASOACTIVE INTESTINAL POLYPEPTIDE RECEPTOR 2 PRECURSOR (VIP-R-2) (PITUITARY ADENYLATE CYCLASE ACTIVATING POLYPEPTIDE TYPE III RECEPTOR) (PACAP TYPE III RECEPTOR) (PACAP-R-3).; transforming growth factor beta 3 (TGF-beta3); antiproliferative growth factor; vasopressin V1b receptor; prostaglandin E2 receptor EP4 subtype; alpha 2C adrenergic receptor (ADRA2C); alpha 2C adrenoceptor; vasopressin/arginine receptor, V1a; prostaglandin F2 alpha receptor; growth hormone secretagogue receptor 1 (GHSR); cholecystokinin receptor; NMDAR2A N-METHYL-D-ASPARTATE RECEPTOR SUBUNIT; P2U PURINOCEPTOR 1 (ATP RECEPTOR) (P2U1) (PURINERGIC RECEPTOR).; estrogen receptor beta (ER-beta); ESR2; NR3A2; kappa-type opioid receptor (KOR-1); lutropin-choriogonadotropic hormone receptor; beta 1 adrenergic receptor (ADRB1R); 5-hydroxytryptamine (serotonin) receptor 1B; 5-HT1B; adrenergic receptor, beta 2; muscarinic acetylcholine receptor M3 (MACHR); B1 bradikinin receptor; mu opioid receptor (MUOR1); mu-type opioid receptor (MOR-1); opioid receptor B; serotonin 5HT2 receptor; somatostatin receptor 2; melatonin receptor; somatostatin receptor; galanin receptor 1; neuromedin B receptor; transmembrane receptor UNC5H1.; pancreatic polypeptide receptor PP1; interleukin-2 (IL-2); somatostatin; luteinizing hormone,

alpha; mast cell protease 1 precursor (RMCP-1); secretory protein probasin (M-40); E-selectin precursor; endothelial leukocyte adhesion molecule 1 (ELAM-1); leukocyte-endothelial cell adhesion molecule 2 (LECAM2); CD62E; Protein kinase C-binding protein beta15; RING-domain containing; kidney band 3 anion exchange protein; SLC4A1; AE1; L-selectin precursor; lymph node homing receptor; leukocyte adhesion molecule-1 (LAM-1); LY-22; lymphocyte surface MEL-14 antigen; leukocyte-endothelial cell adhesion molecule 1 (LECAM1); CD62L; Wilms' tumor protein (WT1); tumor suppressor; CD28, T-cell surface antigen; c-fgr proto-oncogene ; CD3, gamma chain; cathepsin E; S-myc proto-oncogene protein; myc-related ; G protein-activated inward rectifier potassium channel 4 (GIRK4); inward rectifier potassium channel subfamily J member 5 (KCNJ5); heart KATP channel; KATP-1; cardiac inward rectifier (CIR); KIR3.4; fructose (glucose) transporter; sodium channel protein 6 (SCP6); sodium channel, beta 1 subunit; sodium-hydrogen exchange protein-isoform 2 (NHE-2); PMCA; ATP2B2; calcium-transporting ATPase plasma membrane (brain isoform 2; EC 3.6.1.38); calcium pump; ATPase, sodium/potassium, gamma subunit; G protein-activated inward rectifier potassium channel 1 (GIRK1); inward rectifier potassium channel subfamily J member 3 (KCNJ3); KGA; KGB1; KIR3.1; proton gated cation channel drasic; sensory neuron specific; sodium channel 2, brain; ATPase, copper-transporting, Menkes protein; channel-inducing factor precursor (CHIF); corticosteroid-induced protein; synaptotagmin II; carbonic anhydrase 4; calcitonin receptor precursor (CT-R); C1A/C1B; vasopressin V2 receptor; 5-hydroxytryptamine (serotonin) receptor 1B; 5-HT1B; gamma-aminobutyric acid receptor alpha 4 subunit precursor (GABA(A) receptor; GABRA4); vitamin D3 receptor (VDR); 1,25-dihydroxyvitamin D-3 receptor; NR1I1; muscarinic acetylcholine receptor M5 (CHRM5); somatostatin receptor; galanin receptor 1; granulocyte-macrophage colony-stimulating factor (GM-CSF); colony- stimulating factor (CSF); guanylyl cyclase (membrane form); parathyroid hormone receptor PTH2; galanin receptor 2; 5-hydroxytryptamine (serotonin) receptor 2B; guanine nucleotide-binding protein G(I)/G(S)/G(O) gamma-7 subunit (GNG7; GNGT7); adenylyl cyclase 4; protein kinase C-binding protein nel homolog 1; phospholipase C beta 3 (PLC-beta 3); tissue-type plasminogen activator (t-PA); NVP; neural visinin-like Ca²⁺-binding protein , VISININ-LIKE PROTEIN 1 (VILIP-1) (NEURAL VISININ-LIKE PROTEIN 1) (NVL-1) (NVP-1) (21 KD CABP).; T-cell receptor CD3 zeta subunit; P-selectin precursor; granule membrane protein 140 (GMP-140); PADGEM;

CD62P; leukocyte-endothelial cell adhesion molecule 3 (LECAM3); T-cell receptor gamma subunit; kidney band 3 anion exchange protein; SLC4A1; AE1; L-selectin precursor; lymph node homing receptor; leukocyte adhesion molecule-1 (LAM-1); LY-22; lymphocyte surface MEL-14 antigen; leukocyte-endothelial cell adhesion molecule 1 (LECAM1); CD62L; myelin P0 protein precursor; MPZ; MAL; T-lymphocyte maturation-associated protein; myelin protein MVP17; ErbB3 EGF receptor-related proto-oncogene; HER3; CD 30L receptor; lymphocyte activation antigen CD30; Ki-1 antigen; CD30 precursor; zinc transporter (ZnT-1); CCHB3; calcium channel (voltage-gated; DIHYDROPYRIDINE-SENSITIVE L-TYPE, CALCIUM CHANNEL BETA-3 SUBUNIT.; water channel aquaporin 3 (AQP3); 3-methylcholanthrene-inducible cytochrome P450 (P450MC); cytochrome P450 IA1 (CYPIA1); sodium/potassium-transporting ATPase beta 1 subunit (ATP1B1); glucose transporter 3; ATP-sensitive inward rectifier potassium subfamily J member 8 (KCNJ8); UKATP-1; ATP-sensitive inwardly rectifying K⁺ channel KIR6.1; RIM; Rab3 effector in synaptic-vesicle fusion; neuronal acetylcholine receptor protein alpha-3 chain precursor; purinergic receptor P2X5, ligand-gated ion channel; sodium channel I; renal organic anion transporter (ROAT1) + multispecific organic anion transporter (OAT1); neuronal acetylcholine receptor protein alpha 6 subunit precursor (CHRNA6; ACRA6); sodium channel, beta 1 subunit; sodium-hydrogen exchange protein-isoform 2 (NHE-2); PMCA; ATP2B2; calcium-transporting ATPase plasma membrane (brain isoform 2; EC 3.6.1.38); calcium pump; fibrinogen beta subunit (FGB); sulfonyleurea receptor (SUR); glycine receptor alpha 3 subunit precursor (GLRA3); multidrug resistance protein 2 (MDR2); P-glycoprotein (PGY2); potassium channel, voltage gated, KV3.4; RAW3; KCNC4; sodium/chloride cotransporter, thiazide sensitive; synaptosomal associated protein 25; SNAP-25; SNAP; SNAP25; SUP; calcitonin receptor precursor (CT-R); C1A/C1B; gamma-aminobutyric acid (GABA-A) receptor, beta 1 subunit; NEUREXIN I-BETA PRECURSOR, Non-processed neurexin I-beta Synaptic cell surface proteins + NEUREXIN I-ALPHA PRECURSOR, Non-processed neurexin I-alpha Synaptic cell surface proteins; alpha 2B adrenergic receptor (ADRA2B); alpha 2B adrenoceptor; neuropeptide Y receptor type 1; prostaglandin E2 receptor EP4 subtype; alpha 2C adrenergic receptor (ADRA2C); alpha 2C adrenoceptor; c-ErbA oncogene; thyroid hormone receptor alpha-1 (THRA1); gamma-aminobutyric acid receptor alpha 2 subunit precursor (GABA(A) receptor; GABRA2); P2Y PURINOCEPTOR 6 (P2Y6);

glutamate receptor 1 precursor (GluR-1); GluR-A; GluR-K1; gamma-aminobutyric acid receptor alpha 3 subunit precursor (GABA(A) receptor; GABRA3); NMDAR2A N-METHYL-D-ASPARTATE RECEPTOR SUBUNIT; P2U PURINOCEPTOR 1 (ATP RECEPTOR) (P2U1) (PURINERGIC RECEPTOR).; 5-hydroxytryptamine (serotonin) receptor 1B; 5-HT1B; glycine receptor, alpha 2A subunit, inhibitory; parathyroid hormone receptor PTH2; 5-hydroxytryptamine 5A receptor (5HT5A; HTR5A); serotonin receptor; REC17; acetylcholine receptor alpha; brain natriuretic peptide (BNP); 5-kDa cardiac natriuretic peptide; ISO-ANP; luteinizing hormone, alpha; cocaine/amphetamine-induced rat transcript, CART; protein kinase C-binding protein nel homolog 1; 14-3-3 protein eta; PKC inhibitor protein-1; KCIP-1; plectin; NVP; neural visinin-like Ca²⁺-binding protein, VISININ-LIKE PROTEIN 1 (VILIP-1) (NEURAL VISININ-LIKE PROTEIN 1) (NVL-1) (NVP-1) (21 KD CABP).; syndecan 3; ras-GTPase-activating protein (GAP); ras p21 protein activator; p120GAP; interleukin-6 receptor beta chain; membrane glycoprotein gp130; prostatic secretory protein probasin (M-40); A-raf proto-oncogene; prothymosin-alpha (PTMA); cadherin 6 precursor; kidney-cadherin (K-cadherin); neurofibromin; neurofibromatosis protein type I (NF1); GTPase stimulatory protein; c-H-ras proto-oncogene; transforming G-protein p21; HSP84; HSP90-beta; heat shock 90kD protein; Neural adhesion molecule F3, RAT NEURAL ADHESION MOLECULE F3, COMPLETE CDS.; BIG-1 PROTEIN PRECURSOR; neural cell adhesion protein; neurite outgrowth-promotor; potassium channel protein; KSHIIIA3; ATP-sensitive inward rectifier potassium channel subfamily J member 1 (KCNJ1); KAB-1; KIR1.1; ROMK1; Band 3 (B3RP3), 3 Cl-HCO₃-anion exchanger; voltage-gated potassium channel protein KV1.1; RBK1; RCK1; KCNA1; potassium channel, inward rectifier 9; taurine transporter; neuronal acetylcholine receptor protein alpha-3 chain precursor; sodium channel I; potassium channel protein CDRK; neuronal acetylcholine receptor protein alpha 6 subunit precursor (CHRNA6; ACRA6); calcium channel, alpha 1 beta; sodium channel, beta 1 subunit; PMCA; ATP2B2; calcium-transporting ATPase plasma membrane (brain isoform 2; EC 3.6.1.38); calcium pump; 17-kDa ubiquitin-conjugating enzyme E2 (UBE2B); ubiquitin-protein ligase; ubiquitin carrier protein; HR6B; synaptosomal associated protein 25; SNAP-25; SNAP; SNAP25; SUP; 67-kDa glutamic acid decarboxylase (GAD67); GAD1; eek proto-oncogene, protein tyrosine kinase, eph/elk-related; D(1A) DOPAMINE RECEPTOR; growth hormone receptor precursor (GH receptor; GHR); serum-binding protein;

NMDAR2A N-METHYL-D-ASPARTATE RECEPTOR SUBUNIT; 5-hydroxytryptamine (serotonin) receptor 1B; 5-HT1B; thyroid hormone beta receptor; c-erbA-beta; gamma-aminobutyric acid (GABA-A) receptor, beta 3 subunit; glutamate receptor 2 precursor (GLUR-2; GLUR-B; GLUR-K2); glutamate receptor 4 precursor (GLUR-4; GLUR-D); cannabinoid receptor 1, neuronal; neuromedin K receptor (NKR); neurokinin B receptor; NK-3 receptor (NK-3R); GABA-A receptor gamma-2 subunit precursor; galanin receptor 2; insulin-like growth factor binding protein 1 precursor (IGFBP-1; IBP-1); presomatotropin; protein kinase C beta-I type (PKC-beta I) + protein kinase C beta-II type (PKC-beta II); guanine nucleotide-binding protein G(O) alpha subunit (GNAO; GNA0); guanine nucleotide-binding protein G(I) alpha 1 subunit (GNAI1); adenylate cyclase-inhibiting G alpha protein; serine/threonine kinase PCTAIRE2 (PCTK2); protein kinase C-binding protein nel homolog 1; PKI-alpha; cAMP-dependent protein kinase inhibitor (muscle/brain form); 14-3-3 protein eta; PKC inhibitor protein-1; KCIP-1; and NVP; neural visinin-like Ca²⁺-binding protein, VISININ-LIKE PROTEIN 1 (VILIP-1) (NEURAL VISININ-LIKE PROTEIN 1) (NVL-1) (NVP-1) (21 KD CABP), with a test compound;

determining amount of said one or more NM proteins in said cells; and

identifying a test compound as a candidate drug for treating neuronal cell death if it increases the amount of one more NM proteins in said cells.

49. The method of claim 48 wherein the cells are retinal cells.

50. The method of claim 48 wherein the cells are recombinant host cells which are transfected with an expression construct which encodes said one or more NMs.

51. A method to identify candidate drugs for treating neuronal cell death, comprising:

contacting cells which express one or more neuronal marker (NM) proteins selected from the group consisting of: androgen binding protein; plasma kallikrein (rPK); Lim-2; embryonic motor neuron topographic organizer, HOMEODOMAIN PROTEIN LIM-2 (LIM/HOMEODOMAIN PROTEIN LHX5); DCC; netrin receptor; immunoglobulin gene superfamily member; former tumor suppressor protein candidate; N-myc proto-oncogene protein; M-phase inducer phosphatase 2 (MPI2); cell division control protein 25 B (CDC25B); von

ebner's gland protein 2; VEG protein 2; VEGP2 + von ebner's gland protein 1; VEG protein 1; VEGP1; VEGP; synaptobrevin 1 (SYB1); vesicle-associated membrane protein 1 (VAMP1); 3-methylcholanthrene-inducible cytochrome P450 (P450MC); cytochrome P450 IA1 (CYPIA1); cytochrome P450 VII (CYP7); cholesterol 7-alpha-monooxygenase; cholesterol 7-alpha-hydroxylase; cyclic nucleotide-activated channel, olfactory; cytochrome P450 2E1 (CYP2E1); P450-J; P450RLM6; high affinity L-proline transporter; neuronal acetylcholine receptor protein alpha-3 chain precursor; sodium channel I; voltage-dependent L-type calcium channel alpha 1C subunit (CACNA1); cardiac muscle L-type calcium channel alpha 1 polypeptide isoform 1 (CCHL1A1); rat brain class C (RBC); CACH2; CACN2; ATPase, hydrogen-potassium, alpha 2a subunit; sodium channel, amiloride sensitive, alpha subunit; SCNEA; alpha NACH; SCNN1A; RENAC; ; cardiac specific sodium channel alpha subunit; potassium channel protein CDRK; neuronal acetylcholine receptor protein alpha 5 subunit precursor (CHRNA5; ACRA5); sodium channel SHRSPHD, gamma subunit, epithelial; sodium channel protein 6 (SCP6); renal organic anion transporter (ROAT1) + multispecific organic anion transporter (OAT1); neuronal acetylcholine receptor protein alpha 6 subunit precursor (CHRNA6; ACRA6); purinergic receptor P2X3, ligand-gated ion channel; calcium channel, alpha 1 beta; sodium channel, beta 1 subunit; neuronal acetylcholine receptor protein alpha 7 subunit precursor (CHRNA7; ACRA7); neuronal nicotinic acetylcholine receptor alpha 2 subunit; proton gated cation channel drasic; sensory neuron specific; channel-inducing factor precursor (CHIF); corticosteroid-induced protein; MYELIN BASIC PROTEIN S (MBP S); organic cation transporter 2 (OCT2); ASIC1 proton gated cation channel; glycine receptor alpha 3 subunit precursor (GLRA3); voltage-gated K⁺ channel protein; RK5; potassium channel protein; voltage-activated calcium channel alpha-1 subunit (RBE-II); nickel-sensitive T-type calcium channel alpha-1 subunit; inward rectifier potassium channel subfamily J member 2 (KCNJ2); RBL-IRK1; eek proto-oncogene, protein tyrosine kinase, eph/elk-related; prostaglandin D2 receptor; activin receptor type I precursor (ACVR1; ACTR1); serine/threonine-protein kinase receptor R1 (SKR1); TGF-B superfamily receptor type I (TSR-I); ACVRLK2; calcitonin receptor precursor (CT-R); C1A/C1B; prostaglandin E2 receptor EP2 subtype (PGE receptor EP2 subtype; PTGER2); prostanoid EP2 receptor; NEUREXIN I-BETA PRECURSOR, Non-processed neurexin I-beta Synaptic cell surface proteins + NEUREXIN I-ALPHA PRECURSOR, Non-processed neurexin I-alpha

Synaptic cell surface proteins; gastrin-releasing peptide precursor (GRP); neuromedin C; serotonin receptor; 5-hydroxytryptamine 6 receptor (5-HT-6); ST-B17; possesses high affinity for tricyclic psychotropic drugs; platelet activating factor receptor; alpha 2B adrenergic receptor (ADRA2B); alpha 2B adrenoceptor; VASOACTIVE INTESTINAL POLYPEPTIDE RECEPTOR 2 PRECURSOR (VIP-R-2) (PITUITARY ADENYLATE CYCLASE ACTIVATING POLYPEPTIDE TYPE III RECEPTOR) (PACAP TYPE III RECEPTOR) (PACAP-R-3).; transforming growth factor beta 3 (TGF-beta3); antiproliferative growth factor; vasopressin V1b receptor; prostaglandin E2 receptor EP4 subtype; alpha 2C adrenergic receptor (ADRA2C); alpha 2C adrenoceptor; vasopressin/arginine receptor, V1a; prostaglandin F2 alpha receptor; growth hormone secretagogue receptor 1 (GHSR); cholecystokinin receptor; NMDAR2A N-METHYL-D-ASPARTATE RECEPTOR SUBUNIT; P2U PURINOCEPTOR 1 (ATP RECEPTOR) (P2U1) (PURINERGIC RECEPTOR).; estrogen receptor beta (ER-beta); ESR2; NR3A2; kappa-type opioid receptor (KOR-1); lutropin-choriogonadotropic hormone receptor; beta 1 adrenergic receptor (ADRB1R); 5-hydroxytryptamine (serotonin) receptor 1B; 5-HT1B; adrenergic receptor, beta 2; muscarinic acetylcholine receptor M3 (MACHR); B1 bradikinin receptor; mu opioid receptor (MUOR1); mu-type opioid receptor (MOR-1); opioid receptor B; serotonin 5HT2 receptor; somatostatin receptor 2; melatonin receptor; somatostatin receptor; galanin receptor 1; neuromedin B receptor; transmembrane receptor UNC5H1.; pancreatic polypeptide receptor PP1; interleukin-2 (IL-2); somatostatin; luteinizing hormone, alpha; mast cell protease 1 precursor (RMCP-1); secretory protein probasin (M-40); E-selectin precursor; endothelial leukocyte adhesion molecule 1 (ELAM-1); leukocyte-endothelial cell adhesion molecule 2 (LECAM2); CD62E; Protein kinase C-binding protein beta15; RING-domain containing; kidney band 3 anion exchange protein; SLC4A1; AE1; L-selectin precursor; lymph node homing receptor; leukocyte adhesion molecule-1 (LAM-1); LY-22; lymphocyte surface MEL-14 antigen; leukocyte-endothelial cell adhesion molecule 1 (LECAM1); CD62L; Wilms' tumor protein (WT1); tumor suppressor; CD28, T-cell surface antigen; c-fgr proto-oncogene ; CD3, gamma chain; cathepsin E; S-myc proto-oncogene protein; myc-related ; G protein-activated inward rectifier potassium channel 4 (GIRK4); inward rectifier potassium channel subfamily J member 5 (KCNJ5); heart KATP channel; KATP-1; cardiac inward rectifier (CIR); KIR3.4; fructose (glucose) transporter; sodium channel protein 6 (SCP6); sodium channel,

beta 1 subunit; sodium-hydrogen exchange protein-isoform 2 (NHE-2); PMCA; ATP2B2; calcium-transporting ATPase plasma membrane (brain isoform 2; EC 3.6.1.38); calcium pump; ATPase, sodium/potassium, gamma subunit; G protein-activated inward rectifier potassium channel 1 (GIRK1); inward rectifier potassium channel subfamily J member 3 (KCNJ3); KGA; KGB1; KIR3.1; proton gated cation channel drasic; sensory neuron specific; sodium channel 2, brain; ATPase, copper-transporting, Menkes protein; channel-inducing factor precursor (CHIF); corticosteroid-induced protein; synaptotagmin II; carbonic anhydrase 4; calcitonin receptor precursor (CT-R); C1A/C1B; vasopressin V2 receptor; 5-hydroxytryptamine (serotonin) receptor 1B; 5-HT1B; gamma-aminobutyric acid receptor alpha 4 subunit precursor (GABA(A) receptor; GABRA4); vitamin D3 receptor (VDR); 1,25-dihydroxyvitamin D-3 receptor; NR1H1; muscarinic acetylcholine receptor M5 (CHRM5); somatostatin receptor; galanin receptor 1; granulocyte-macrophage colony-stimulating factor (GM-CSF); colony- stimulating factor (CSF); guanylyl cyclase (membrane form); parathyroid hormone receptor PTH2; galanin receptor 2; 5-hydroxytryptamine (serotonin) receptor 2B; guanine nucleotide-binding protein G(I)/G(S)/G(O) gamma-7 subunit (GNG7; GNGT7); adenylyl cyclase 4; protein kinase C-binding protein nel homolog 1; phospholipase C beta 3 (PLC-beta 3); tissue-type plasminogen activator (t-PA); NVP; neural visinin-like Ca²⁺-binding protein , VISININ-LIKE PROTEIN 1 (VILIP-1) (NEURAL VISININ-LIKE PROTEIN 1) (NVL-1) (NVP-1) (21 KD CABP).; T-cell receptor CD3 zeta subunit; P-selectin precursor; granule membrane protein 140 (GMP-140); PADGEM; CD62P; leukocyte-endothelial cell adhesion molecule 3 (LECAM3); T-cell receptor gamma subunit; kidney band 3 anion exchange protein; SLC4A1; AE1; L-selectin precursor; lymph node homing receptor; leukocyte adhesion molecule-1 (LAM-1); LY-22; lymphocyte surface MEL-14 antigen; leukocyte-endothelial cell adhesion molecule 1 (LECAM1); CD62L; myelin P0 protein precursor; MPZ; MAL; T-lymphocyte maturation-associated protein; myelin protein MVP17; ErbB3 EGF receptor-related proto-oncogene; HER3; CD 30L receptor; lymphocyte activation antigen CD30; Ki-1 antigen; CD30 precursor; zinc transporter (ZnT-1); CCHB3; calcium channel (voltage-gated; DIHYDROPYRIDINE-SENSITIVE L-TYPE, CALCIUM CHANNEL BETA-3 SUBUNIT.; water channel aquaporin 3 (AQP3); 3-methylcholanthrene-inducible cytochrome P450 (P450MC); cytochrome P450 IA1 (CYPIA1); sodium/potassium-transporting ATPase beta 1 subunit (ATP1B1); glucose transporter 3; ATP-sensitive inward rectifier

potassium subfamily J member 8 (KCNJ8); UKATP-1; ATP-sensitive inwardly rectifying K⁺ channel KIR6.1; RIM; Rab3 effector in synaptic-vesicle fusion; neuronal acetylcholine receptor protein alpha-3 chain precursor; purinergic receptor P2X5, ligand-gated ion channel; sodium channel I; renal organic anion transporter (ROAT1) + multispecific organic anion transporter (OAT1); neuronal acetylcholine receptor protein alpha 6 subunit precursor (CHRNA6; ACRA6); sodium channel, beta 1 subunit; sodium-hydrogen exchange protein-isoform 2 (NHE-2); PMCA; ATP2B2; calcium-transporting ATPase plasma membrane (brain isoform 2; EC 3.6.1.38); calcium pump; fibrinogen beta subunit (FGB); sulfonyleurea receptor (SUR); glycine receptor alpha 3 subunit precursor (GLRA3); multidrug resistance protein 2 (MDR2); P-glycoprotein (PGY2); potassium channel, voltage gated, KV3.4; RAW3; KCNC4; sodium/chloride cotransporter, thiazide sensitive; synaptosomal associated protein 25; SNAP-25; SNAP; SNAP25; SUP; calcitonin receptor precursor (CT-R); C1A/C1B; gamma-aminobutyric acid (GABA-A) receptor, beta 1 subunit; NEUREXIN I-BETA PRECURSOR, Non-processed neurexin I-beta Synaptic cell surface proteins + NEUREXIN I-ALPHA PRECURSOR, Non-processed neurexin I-alpha Synaptic cell surface proteins; alpha 2B adrenergic receptor (ADRA2B); alpha 2B adrenoceptor; neuropeptide Y receptor type 1; prostaglandin E2 receptor EP4 subtype; alpha 2C adrenergic receptor (ADRA2C); alpha 2C adrenoceptor; c-ErbA oncogene; thyroid hormone receptor alpha-1 (THRA1); gamma-aminobutyric acid receptor alpha 2 subunit precursor (GABA(A) receptor; GABRA2); P2Y PURINOCEPTOR 6 (P2Y6); glutamate receptor 1 precursor (GluR-1); GluR-A; GluR-K1; gamma-aminobutyric acid receptor alpha 3 subunit precursor (GABA(A) receptor; GABRA3); NMDAR2A N-METHYL-D-ASPARTATE RECEPTOR SUBUNIT; P2U PURINOCEPTOR 1 (ATP RECEPTOR) (P2U1) (PURINERGIC RECEPTOR).; 5-hydroxytryptamine (serotonin) receptor 1B; 5-HT1B; glycine receptor, alpha 2A subunit, inhibitory; parathyroid hormone receptor PTH2; 5-hydroxytryptamine 5A receptor (5HT5A; HTR5A); serotonin receptor; REC17; acetylcholine receptor alpha; brain natriuretic peptide (BNP); 5-kDa cardiac natriuretic peptide; ISO-ANP; luteinizing hormone, alpha; cocaine/amphetamine-induced rat transcript, CART; protein kinase C-binding protein nel homolog 1; 14-3-3 protein eta; PKC inhibitor protein-1; KCIP-1; plectin; NVP; neural visinin-like Ca²⁺-binding protein, VISININ-LIKE PROTEIN 1 (VILIP-1) (NEURAL VISININ-LIKE PROTEIN 1) (NVL-1) (NVP-1) (21 KD CABP).; syndecan 3; ras-GTPase-activating protein

(GAP); ras p21 protein activator; p120GAP; interleukin-6 receptor beta chain; membrane glycoprotein gp130; prostatic secretory protein probasin (M-40); A-raf proto-oncogene; prothymosin-alpha (PTMA); cadherin 6 precursor; kidney-cadherin (K-cadherin); neurofibromin; neurofibromatosis protein type I (NF1); GTPase stimulatory protein; c-H-ras proto-oncogene; transforming G-protein p21; HSP84; HSP90-beta; heat shock 90kD protein; Neural adhesion molecule F3, RAT NEURAL ADHESION MOLECULE F3, COMPLETE CDS.; BIG-1 PROTEIN PRECURSOR; neural cell adhesion protein; neurite outgrowth-promotor; potassium channel protein; KSHIIIA3; ATP-sensitive inward rectifier potassium channel subfamily J member 1 (KCNJ1); KAB-1; KIR1.1; ROMK1; Band 3 (B3RP3), 3 Cl-HCO₃-anion exchanger; voltage-gated potassium channel protein KV1.1; RBK1; RCK1; KCNA1; potassium channel, inward rectifier 9; taurine transporter; neuronal acetylcholine receptor protein alpha-3 chain precursor; sodium channel I; potassium channel protein CDRK; neuronal acetylcholine receptor protein alpha 6 subunit precursor (CHRNA6; ACRA6); calcium channel, alpha 1 beta; sodium channel, beta 1 subunit; PMCA; ATP2B2; calcium-transporting ATPase plasma membrane (brain isoform 2; EC 3.6.1.38); calcium pump; 17-kDa ubiquitin-conjugating enzyme E2 (UBE2B); ubiquitin-protein ligase; ubiquitin carrier protein; HR6B; synaptosomal associated protein 25; SNAP-25; SNAP; SNAP25; SUP; 67-kDa glutamic acid decarboxylase (GAD67); GAD1; eek proto-oncogene, protein tyrosine kinase, eph/elk-related; D(1A) DOPAMINE RECEPTOR; growth hormone receptor precursor (GH receptor; GHR); serum-binding protein; NMDAR2A N-METHYL-D-ASPARTATE RECEPTOR SUBUNIT; 5-hydroxytryptamine (serotonin) receptor 1B; 5-HT1B; thyroid hormone beta receptor; c-erbA-beta; gamma-aminobutyric acid (GABA-A) receptor, beta 3 subunit; glutamate receptor 2 precursor (GLUR-2; GLUR-B; GLUR-K2); glutamate receptor 4 precursor (GLUR-4; GLUR-D); cannabinoid receptor 1, neuronal; neuromedin K receptor (NKR); neurokinin B receptor; NK-3 receptor (NK-3R); GABA-A receptor gamma-2 subunit precursor; galanin receptor 2; insulin-like growth factor binding protein 1 precursor (IGFBP-1; IBP-1); presomatotropin; protein kinase C beta-I type (PKC-beta I) + protein kinase C beta-II type (PKC-beta II); guanine nucleotide-binding protein G(O) alpha subunit (GNAO; GNA0); guanine nucleotide-binding protein G(I) alpha 1 subunit (GNAI1); adenylate cyclase-inhibiting G alpha protein; serine/threonine kinase PCTAIRE2 (PCTK2); protein kinase C-binding protein nel homolog 1; PKI-alpha; cAMP-

dependent protein kinase inhibitor (muscle/brain form); 14-3-3 protein eta; PKC inhibitor protein-1; KCIP-1; and NVP; neural visinin-like Ca²⁺-binding protein, VISININ-LIKE PROTEIN 1 (VILIP-1) (NEURAL VISININ-LIKE PROTEIN 1) (NVL-1) (NVP-1) (21 KD CABP), with a test compound;

determining activity of said one or more NM proteins in said cells; and

identifying a test compound as a candidate drug for treating neuronal cell death if it increases the activity of one more NM proteins in said cells.

52. The method of claim 51 wherein the cells are retinal cells.

53. The method of claim 51 wherein the cells are recombinant host cells which are transfected with an expression construct which encodes said one or more NMs.